Steve Tragesser / Associate Professor

EDUCATION:

Doctor of Philosophy in Aeronautical and Astronautical Engineering
Purdue University, Dec 1997
Master of Science in Aeronautical and Astronautical Engineering
Purdue University, May 1994
Bachelor of Science in Aeronautical and Astronautical Engineering
University of Illinois, May 1992

ACADEMIC EXPERIENCE:

2010-present	Associate Professor of Mechanical and Aerospace Engineering at the University of Colorado at Colorado Springs
2004-2010	Assistant Professor of Mechanical and Aerospace Engineering at the University of Colorado at Colorado Springs
1999-2004	Assistant Professor of Aeronautical and Astronautical Engineering at the Air Force Institute of Technology

INDUSTRY EXPERIENCE:

1998-1999 Technical Staff, C.S. Draper Laboratory, Space Guidance and Navigation Section

FUNDED RESEARCH:

2014 – USA Shooting – "Wheelchair modifications for Paralympic Shooting" (PI) - $2,495

2013 - Colorado Space Grant Consortium- "Human Kinetics in a Low Gravity Environment (continuation)" (PI) - $10,000

2012 - University of Colorado Biofrontiers Consortium - "Modeling and Optimizing Elasticity in a Dynamic Gait Simulation with Application to Trans-tibial Prosthetic Design" (PI) - $25,000

2012 - Colorado Space Grant Consortium- "Human Kinetics in a Low Gravity Environment" (PI) - $10,000

2011 - Colorado Space Grant Consortium- "Linear Quadratic Regulator (LQR) implementation for a tether sling'" (PI) - $10,000

2010 - Colorado Space Grant Consortium- "Multi-angle tether sensor design, manufacture and implementation" (PI) - $10,000

2009 - Colorado Space Grant Consortium- "Laboratory Demonstration of a Space Tether Sling" (PI) - $10,000

2009 - Center for Space Studies at UCCS - "Tethered Orbital Determination Robustness Analysis" (PI) - $28,200

2008 - AF Research Laboratory Space Vehicles Directorate - "Nanosatellite Formation Flying with Liquid Droplet Thrusters" (PI) - $15,700

2008 – ERC, Inc. (co-PI 50%) - "Nanosatellite Formation Flying with Liquid Droplet Thrusters" (PI) - $45,900

2006 - AF Research Laboratory Space Vehicles Directorate - "Satellite Stationkeeping with Respect to a Reference Trajectory" (PI) - $15,700

2005 – Army Space and Missile Defense Center – “Performance Analysis of Near-Space Vehicles” (Co-PI 25%)- $77,300

2004 - AF Research Laboratory Space Vehicles Directorate - “Satellite Formation Design for Space-based Radar Applications” (PI) - $14,600

2003 - National Space Security Architect - “Coverage Analysis for Space-based Weapons” (PI) - $15,000

2003 – AF Space Command - “Tethered Satellite Identification” (PI) - $5,000

2002-2004 Department of Defense - “Microsatellite Rendezvous with Non-cooperative Targets" (PI) - $36,250

2002 – AF Research Lab – “Optimal Design of Satellite Formations” (PI) - $25,000

JOURNAL PUBLICATIONS:

Tragesser, S. and Baars, L., “Dynamics and Control of A Tether Sling Stationed on a Rotating Body,” *Journal of Guidance, Control, and Dynamics*, Vol. 37, No. 1, 2014, pp. 176-184.

Slane, J. and Tragesser, S.G., “Analysis of Periodic Nonautonomous Inhomogeneous Systems,” *Nonlinear Dynamics and Systems Theory*, Vol. 11, No. 2, 2011, pp. 183-198.

Tragesser, S. G. and Gorjidooz, B., “Open-Loop Spinup and Deployment Control of a Tether Sling,” *Journal of Spacecraft and Rockets*, Vol. 47, No. 2, 2010, pp. 345-352.

Tragesser, S., “Static Formations Using Momentum Exchange Between Satellites,” *Journal of Guidance, Control and Dynamics*, Vol. 32, No. 4, 2009, pp. 1277-1286.

Tragesser, S. and Faulstich, M., “Tethered Satellite Identification with Mixed Observation Data,” *Journal of Spacecraft and Rockets*, Vol. 44, No. 1, 2007.

Tragesser, S.G. and San, H., “Orbital Maneuvering with Electrodynamic Tethers,” *Journal of Guidance, Control and Dynamics*, Vol. 53, No.1, 2005.

Tragesser, S.G. and Tuncay, A., “Orbital Design of Earth-Oriented Tethered Satellite Formations,” *Journal of Guidance, Control and Dynamics*, Vol. 26, No. 5, Sept 2003.

Oldenburg, J. A. and Tragesser, S.G., “Minimizing the Effects of Transverse Torques During Thrusting for a Spin-Stabilized Spacecraft,” *Journal of Guidance, Control and Dynamics,* Vol. 25, No. 3, May 2002.

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS:

American Institute of Aeronautics and Astronautics, Senior Member

HONORS AND AWARDS:

2006-2007 UCCS Engineering and Applied Science Researcher of the Year
2004 Young Researcher of the Year for the AIAA Rocky Mountain Section

INSTITUTIONAL AND PROFESSIONAL SERVICE:

2004-pres	AIAA Tethers Technical Committee Member
2000-2004	AIAA Young Member Chair for Dayton-Cincinnati Section
1999-pres	Referee for Journal of Guidance, Control, and Dynamics, Journal of Spacecraft and Rockets, and the Journal of the Astronautical Sciences